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I, CASSANDRA RICHARDS, ACTING TEAM LEADER EXAMINATION SUPPORT & SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. PQ 3083 for a patent by ELFBLEND PTY LTD filed on 24 September 1999.



WITNESS my hand this
Twenty-sixth day of October 2000

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DRAINAGE PIPES

This invention relates to drainage pipes. More particularly, this invention relates to an accessory for use in construction, to a drainage pipe and to a method of construction.

At present, drainage pipes are usually positioned in a substrate to be flush with or to extend partially from the substrate. Once this has been done, a layer of screed is formed on the substrate. A bed of tiles may or may not then be positioned on the screed.

It has been found that, during construction, screed material is often disposed of in the drainage pipe. Where tiles are laid on the screed layer, the tiles are broken off at a region about the drainage pipe to provide a location in which a drain grate can be positioned. These pieces of broken tile are often also disposed of in the drainage pipe.

The waste screed and tile pieces can cause substantial problems at a later stage. In fact, it is well-known in the plumbing trade that initial call backs on new buildings are usually due to blockages resulting from material disposed of in the drainage pipes.

A problem presently facing tilers is the provision of a level mark which the tiler can use to determine the thickness of screed to be placed on the substrate. At present, tilers have a difficulty in achieving a consistently level surface of screed because of the lack of a central mark that they can use as a reference point.

It will be appreciated that it would be desirable should a means be provided whereby the above issues can be addressed.

According to a first aspect of the invention, there is provided an accessory for use in construction, the accessory including

a conduit that has an inlet end and an outlet end, the outlet end being mountable to a drainage pipe so that the conduit and the drainage pipe are in fluid communication; and

5 a removable closure which is mounted on the inlet end of the conduit to close the conduit when not in use so that the ingress of detritus into the drainage pipe is inhibited.

According to a second aspect of the invention, there is provided a drainage pipe which includes

10 a conduit that is mountable in a substrate on which a floor is to be formed, the conduit being of sufficient length to at least extend to a level substantially flush with an upper level of a screed to be laid on the substrate; and

15 a removable closure which is mounted on an inlet end of the conduit to close the conduit when not in use so that the ingress of detritus into the conduit is inhibited.

According to a third aspect of the invention, there is provided an accessory for use in construction, the accessory including

20 a conduit that has an inlet end and an outlet end, the outlet end of the conduit being mountable to a drainage pipe so that the conduit and the drainage pipe are in fluid communication with each other; and

25 a reference level means that is positioned on the conduit and is configured so that, when the conduit is mounted on the drainage pipe, the reference level means provides at least a reference level for a screed to be formed on a substrate.

According to a fourth aspect of the invention, there is provided a drainage pipe, which includes

30 a conduit that is mountable in a substrate on which a floor is to be formed, the conduit being of sufficient length to at least extend to a level

substantially flush with an upper level of a screed to be laid on the substrate; and

a reference level means that is positioned on the conduit and is configured so that, when the conduit is mounted on the drainage pipe, the reference level means provides at least a reference level for a screed to be formed on a substrate.

According to a fifth aspect of the invention, there is provided a method of construction, the method including the steps of:

- 10 mounting an outlet end of a conduit to a drainage pipe to provide fluid communication between the conduit and the drainage pipe, so that an inner end portion of the conduit extends from a substrate in which the drainage pipe is positioned, a removable closure being mounted on an inner end of the conduit to close the conduit; and
- 15 forming a floor on the substrate with the closure in position so that detritus is inhibited from entering the drainage pipe during formation of the floor.

According to a sixth aspect of the invention, there is provided a method of construction, the method including the steps of:

- 20 mounting an outlet end of a conduit to a drainage pipe to provide fluid communication between the conduit and the drainage pipe, so that an inlet end portion of the conduit extends from a substrate in which the drainage pipe is positioned, a reference level means being arranged on the inlet end portion of the conduit to define at least a reference level for screed to be placed on the substrate; and
- 25 forming a floor on the substrate with the conduit in position, using the reference level as a reference for the screed.

- 30 The reference level means may be defined by the upper end portion of the conduit.

Preferably, this invention extends to the accessory of the first aspect of the invention, as described above, incorporating the features of the accessory of the third aspect of the invention.

- 5 Thus, the accessory may include both the removable closure that is mounted on the inlet end of the conduit and the reference level means.

The closure may be in the form of a closure piece that is connected to the inlet end portion. The closure piece may be connected to the inlet end portion with a
10 weakened zone to facilitate removal of the closure piece.

The conduit may be circular cylindrical. The inlet end portion may be of increased diameter to define the reference level means. Thus, a shoulder may be defined at a junction of the inlet end portion and a remaining portion of the
15 conduit.

In use, the conduit may be mounted in the drainage pipe so that said shoulder is substantially flush with the substrate. It follows that the inlet end portion may be of a length that is selected depending on a thickness of the screed layer to
20 be used for tiling. A tiler can thus use the end portion as a level mark for forming the screed layer.

Those with experience in the plumbing and building industry will appreciate that, prior to laying screed, drainage pipes often extend from a substrate. The
25 drainage pipes are located in a low region of the substrate to facilitate drainage. These regions are exposed to the weather at some stage of the construction. As a result, rainwater can pool about the drainage pipe. This causes problems for builders and tilers. It is known that a pipe is often broken off to permit this
30 excess water to be drained via the drainage pipe. This is clearly undesirable and can have severe cost implications.

Thus, the end portion may have a plurality of openings defined therein to permit drainage of this excess water.

5 An accessory, drainage pipe and method in accordance with this invention may manifest itself in a variety of forms. It will be convenient hereinafter to describe in detail preferred embodiments of the invention with reference to the accompanying drawings. The purpose of this specific description is to instruct persons having an interest in the subject matter of the invention how to carry the invention into practical effect. It is to be clearly understood however that the
10 specific nature of this description does not supersede the generality of the preceding broad description. In the drawings:

FIG. 1 shows a plan view of an accessory, in accordance with the invention, for use in construction;

FIG. 2 shows a side view of the accessory;

15 FIG. 3 shows a side sectioned view of the accessory, without a closure piece; and

FIG. 4 shows the accessory in a typical application.

20 In the drawings, reference 10 generally indicates an accessory, in accordance with the invention, for use in construction. The accessory 10 includes a conduit 12. The conduit 12 has an inlet end 14 which defines an inlet 16 and an outlet end 18 which defines an outlet 20.

25 The outlet end 18 has a radially extending flexible lip 21 defined thereon. The lip 20 is dimensioned to be deformed when the conduit 12 is inserted into a drainage pipe 22. Furthermore, the flexible lip 21 is of sufficient resilience to result in the conduit 12 being retained in position in the drainage pipe 22.

30 The conduit 12 has an inlet end portion 24. The conduit 12 is circular cylindrical with the end portion 24 being of an increased diameter. It follows that a shoulder 26 is defined between the end portion 24 and a remaining portion 28 of the conduit 12.

As is well known in the field, the drainage pipe 22 is mounted in a substrate 30 which, in this case, is in the form of concrete 32.

- 5 The conduit 12 is inserted, outlet end 18 first, into an inlet 34 of the drainage pipe 22. The conduit 12 is inserted so that the shoulder 26 is aligned with an upper surface 36 of the concrete substrate 30.

10 A length of the inlet end portion 24 is equivalent to a thickness of screed 38 to be formed on the substrate 30. Thus, the inlet end portion 24 defines a reference level means whereby a tiler can use the inlet end portion 24 as a reference for placing the screed 38.

15 A removable closure 40 is incorporated into the inlet end portion 24. The removable closure 40 is defined by a closure piece 42 mounted via a zone of weakness 44. The zone of weakness 44 permits and facilitates the removal of the closure piece 42 from the remainder of the conduit 12.

20 A resultant opening 46 following removal of the closure piece 42 is dimensioned so that a drain grate 48 can be fitted in the opening 46.

25 A lower region 50 of the inlet end portion 24 has a plurality of openings 52 defined therein. The openings 52 are positioned to be substantially in alignment with the upper surface 36 of the substrate 30.

The accessory 10 is in the form of a unitary one piece structure. Further, the accessory 10 is manufactured from a resilient plastics material, such as a polyvinylchloride.

30 In use, the conduit 12 is inserted, outlet end 18 first, into the drainage pipe 22 until the shoulder 26 is substantially aligned with the upper surface 36. A tiler can then lay the screed 38 on the concrete 32 using the inlet end portion 24 as

a guide to the thickness of the screed 38 to be laid. A layer of tiles 54 is then laid on the screed 38. Both the screed 38 and the tiles 54 are laid in a conventional fashion.

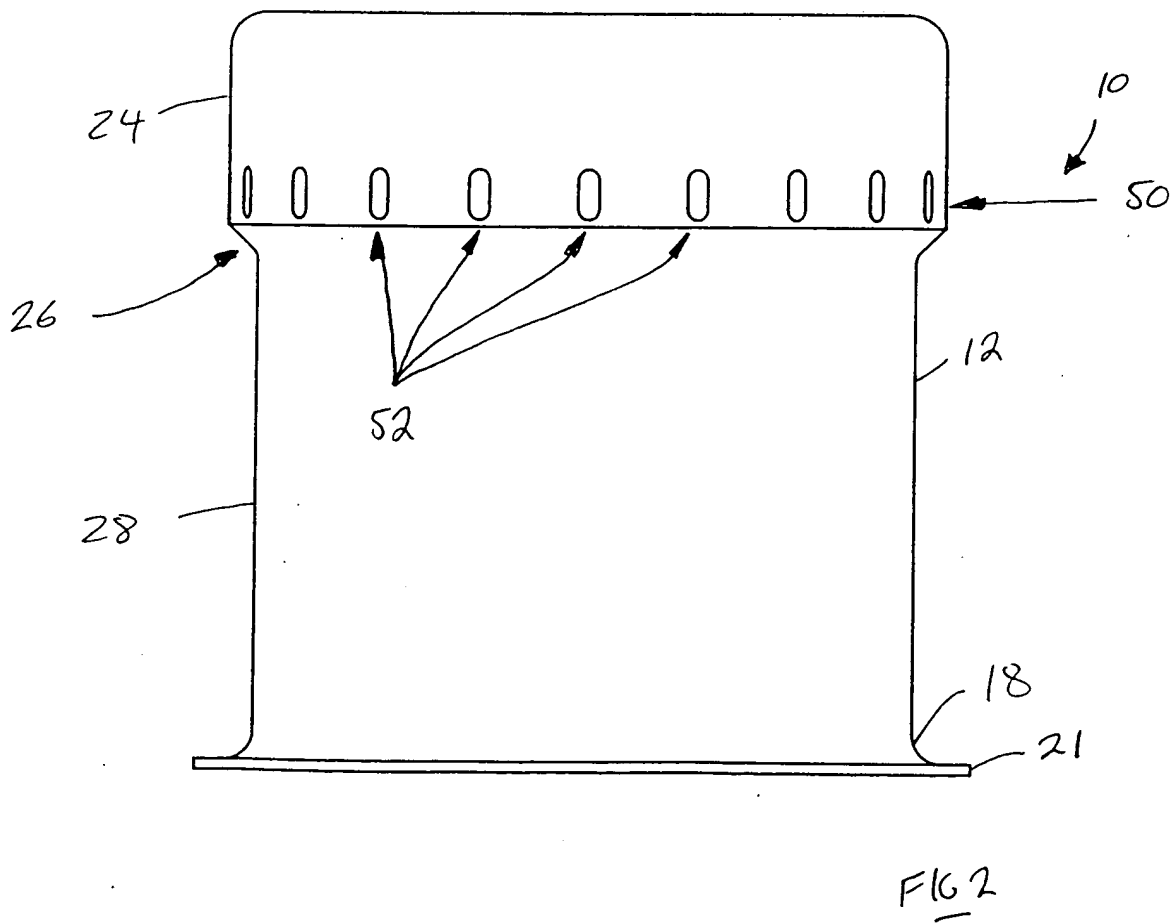
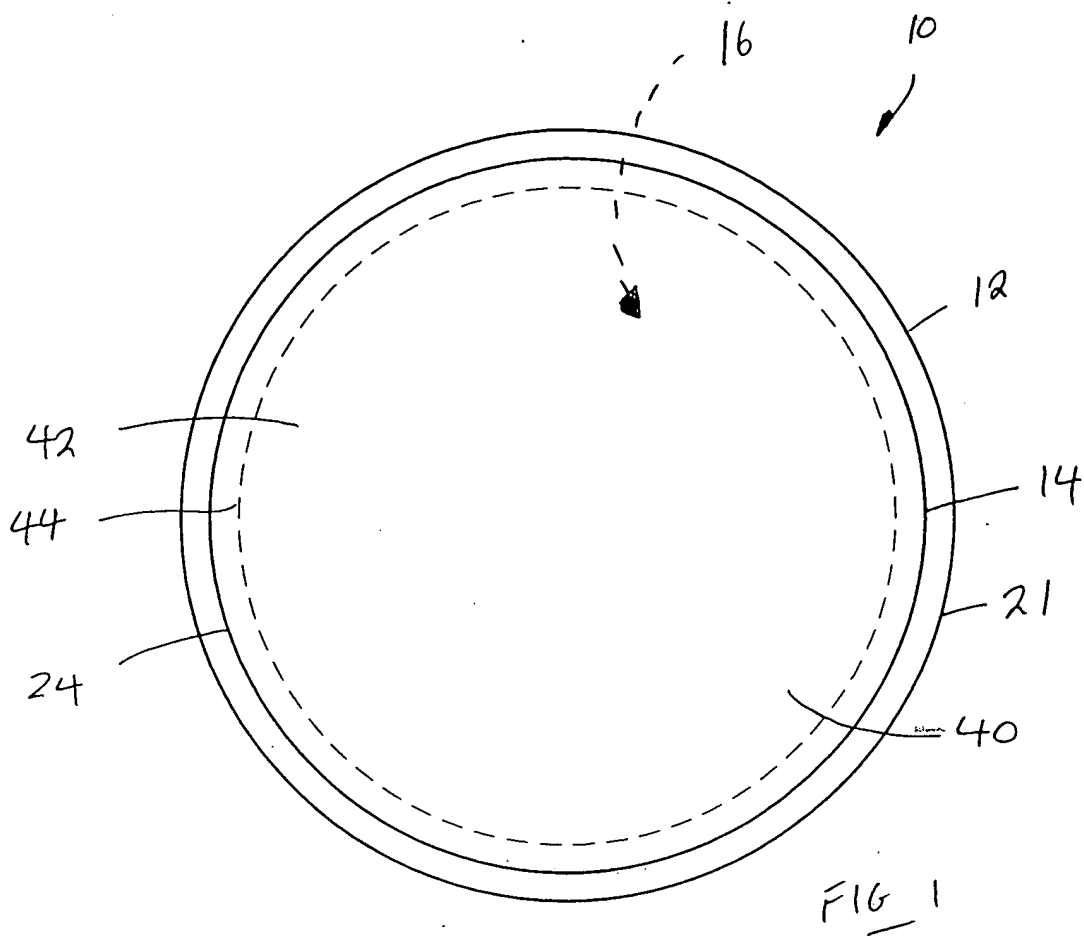
- 5 The tiles are then cut at the location of the drainage pipe 22 to accommodate the drain grate 48. Once the area has been cleaned of screed material and tile chips, the removable closure 40 is removed. The drain grate 48 is then fixed in place, in a conventional manner.
- 10 One of the significant advantages of this invention is that screed material and tiles are inhibited from entering the drainage pipe 22. This is as a result of the removable closure being left in place until such time as it becomes necessary to mount the drain grate 48.
- 15 As has been set out earlier, a major problem with the construction of floors incorporating drainage outlets is that screed material and pieces of tile are often disposed of in the drainpipe. In addition, various other items of waste such as empty cement packets are often used to block drainpipes, to prevent disposal of waste materials during construction in the drainpipes. The empty cement
20 packets themselves then cause substantial plumbing problems. The blockage of drainpipes as a result of this sort of activity is one of the main reasons for a plumber's first call out on a new construction.
- 25 A further advantage of this particular invention is that the inlet end portion 24 provides a reference level means for a tiler to achieve a correct screed thickness. It is well known in the field that it is an extremely difficult task to achieve the correct screed level thickness, particularly where the screed is required to slope gradually downwardly towards the drainage outlet.
- 30 Yet a further advantage of this invention is the provision of the openings 52. As set out above, these permit the drainage of excess water during construction.

This excess water causes problems for tilers and builders and often results in damage to a drainage pipe when attempts are made to drain the water.

5 It will of course be realised that the above has been given only by way of illustrative example of the invention and that all such modifications and variations thereto as would be apparent to persons skilled in the art are deemed to fall within the broad scope and ambit of the invention as is herein set forth.

10 DATED THIS TWENTY-FOURTH DAY OF SEPTEMBER 1999
ELFBLEND PTY LTD
BY
PIZZEYS PATENT AND TRADE MARK ATTORNEYS

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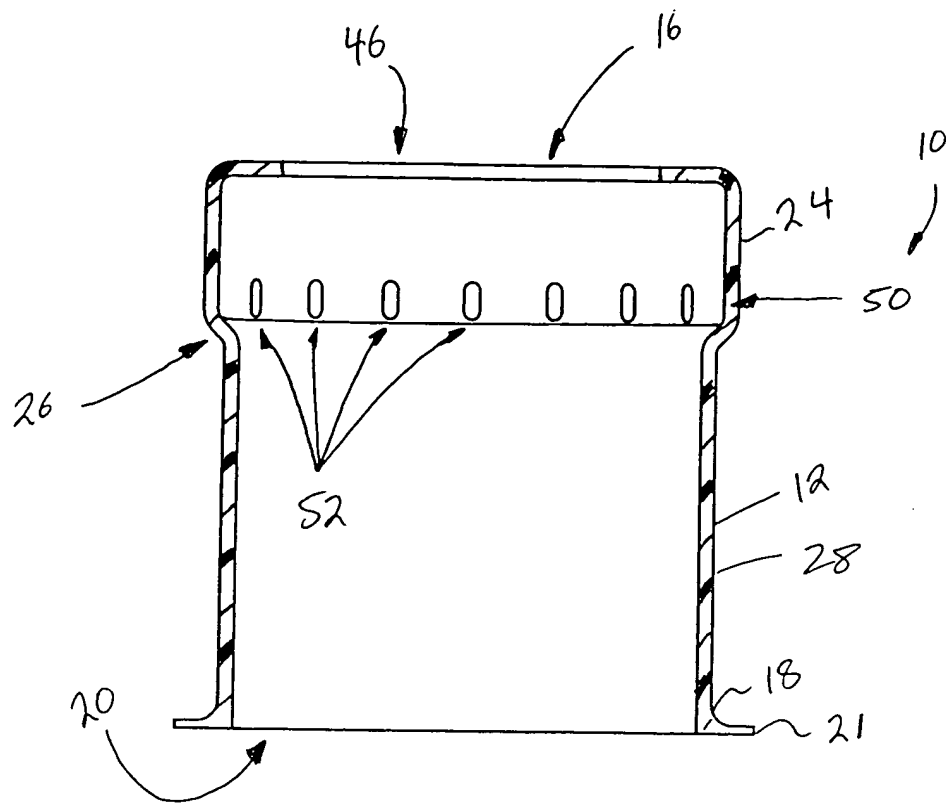


FIG 3

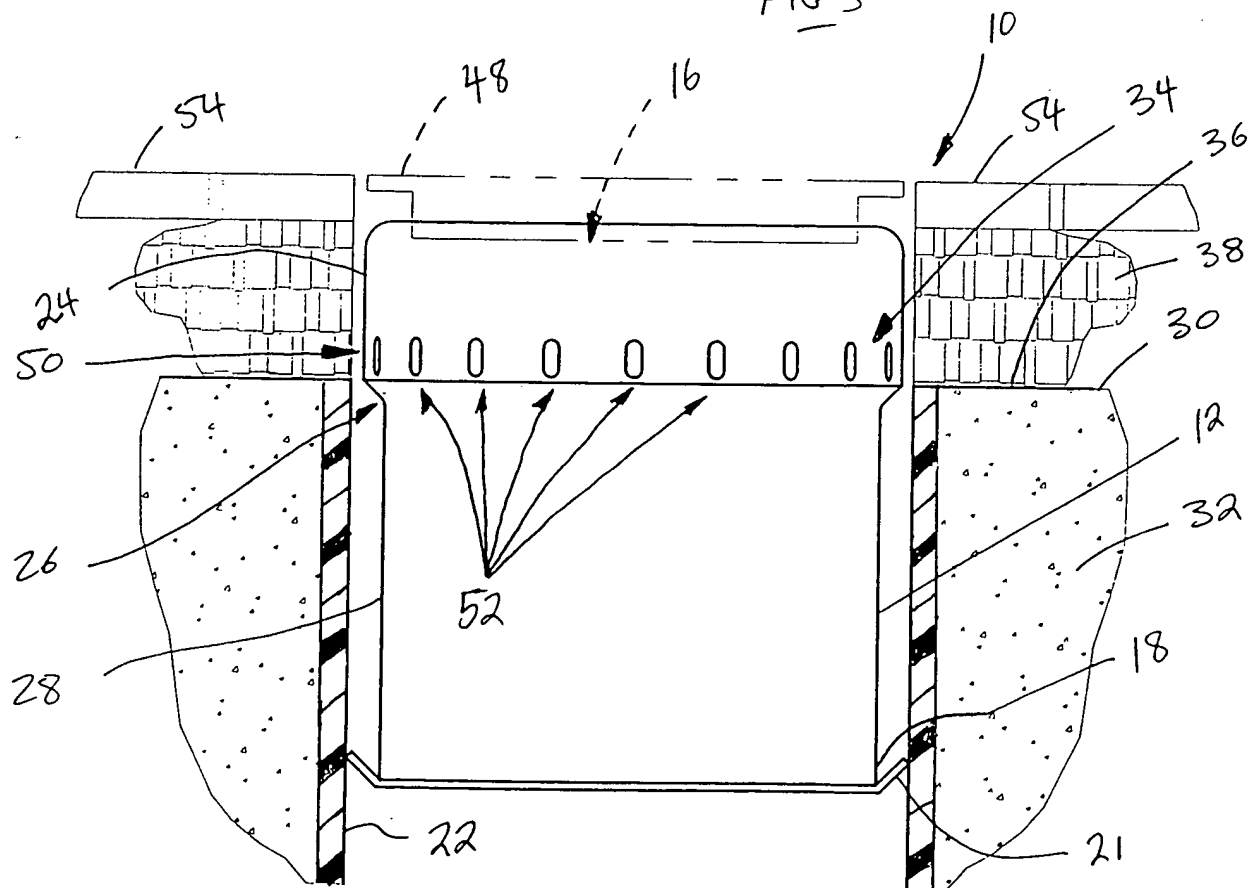


FIG 4

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